

The Survey of Human Papillomavirus Infection in Prostatic Carcinoma and Benign Prostatic Hyperplasia Biopsies

Ehsan Ghasemian¹; GholamReza Irajian*²; Seyed HamidReza Monavari³; Rouhollah Vahabpour Roudsari³; Yosef Yahyapour³;

1-Department of Microbiology, Science and Research Branch, Islamic Azad University, Fars, Iran

2-Department of Microbiology, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran

3-Department of Virology, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran

dr.irajian@gmail.com

Background & Objectives: Prostate cancer (PC) is the fifth most common cancer in the world and the second most common cancer in men. The role of inflammation in prostate disease is suggested by the presence of inflammatory cells within the prostate in benign prostatic hyperplasia (BPH) and PC patient, also viral Infection may lead to chronic and recurrent inflammation of the prostate. The human papillomavirus (HPV) are a family of sexually transmitted viruses and have been implicated in the aetiology of cervical cancer and several malignant diseases. This study evaluating the frequency of HPV infection in individuals with prostatic disease in Iran.

Methods: The study included formalin fixed paraffin- embedded tissue samples of 100 primary prostate cases, including 20 PC and 80 BPH samples. DNA extraction was qualified by biophotometer, and then β - Globin was used as a control to DNA viability with PCO3/PCO4 primers. HPV DNA was purified and amplified through MY09/MY11 and GP5+/GP6+ primers with Nested PCR.

Results: Three samples were not competent and thus eliminated. Nested PCR showed that HPV DNA was found in 20 percent of PC samples and 7.8 percent of BPH samples.

Conclusion: Our data support a probable association between presence of HPV DNA and risk of inflammation in prostate tissue and may lead to prostate carcinoma in Iranian population. Prevention of prostate cancer and HPV infection in adolescents should focus on the successful administration of the HPV vaccine and education of healthy sexual behavior.

Keywords: Human Papillomavirus; Prostatic Carcinoma; Benign Prostatic Hyperplasia; Inflammation